

five hundred feet, the shortest time in passing a given point being ten seconds. Five buildings were destroyed, entailing a loss estimated at \$25,000.

Windsor, Alachua county, Florida: a tornado occurred at this place at 12 m. on the 11th. It moved in an east-northeasterly direction at the rate of forty miles per hour, destroying four buildings, and injuring several others during its passage.

Lane Park, Sumter county, Florida: a tornado occurred a short distance east of this place on the morning of the 11th. The tornado moved in a northeasterly direction, leaving a well-marked path, about one hundred yards wide, through the timber; the largest pine and cypress trees were torn up by the roots.

Captain Charles Haley, of the schooner "Genevieve," at Philadelphia, November 9th, from Charleston, South Carolina, reports the following:

On October 29th, at 10 a. m., when about thirty miles south of Frying Pan Lightship, was struck by a tornado aloft, which carried away the main and mizzen masts about twenty-feet below the cross-trees. The weather at the time was moderate, and the wind on deck did not exceed a five-knot breeze, the only indications of a change being a rain-squall from the northwest. Four hours after the tornado we had a gale from the west which continued twenty hours.

Philadelphia, Pennsylvania, 29th: a heavy thunder-storm began at 6.35 p. m., and continued for one hour. The peals of thunder, and the electrical display, were very unusual. Considerable damage was done by lightning in this city and in Camden, New Jersey. All of the electric lights were extinguished, and telegraphic communication was rendered difficult.

#### NAVIGATION.

##### STAGE OF WATER IN RIVERS.

In the following table are shown the danger-points at the various river stations; the highest and lowest stages for October, 1885, with the dates of occurrence, and the monthly ranges:

*Heights of rivers above low-water mark, October, 1885.*

[Expressed in feet and tenths.]

Stations.	Danger-point on gauge.	Highest water.		Lowest water.		Monthly range.
		Date.	Height.	Date.	Height.	
<i>Red River:</i>						
Shreveport, Louisiana.....	29 9	1, 2, 3	3 2	24	0 7	2 5
<i>Arkansas River:</i>						
Fort Smith, Arkansas.....	22 0	8	4 2	16, 18	2 7	1 5
Little Rock, Arkansas.....	23 0	1	4 8	26 to 30	3 3	1 5
<i>Missouri River:</i>						
Yankton, Dakota.....	24 0	1, 2, 3	14 0	29, 30, 31	11 6	2 4
Omaha, Nebraska.....	18 0	1, 2, 3	6 5	9, 10, 11, 13	5 7	0 8
<i>Leavenworth, Kansas:</i>	20 0	19	7 3	10, 11, 12	6 5	0 8
<i>Mississippi River:</i>						
Saint Paul, Minnesota.....	14 5	1, 13, 16, 17, 19	3 4	25	2 9	0 5
<i>La Crosse, Wisconsin:</i>	24 0	1, 2	4 8	30, 31	3 7	1 1
Dubuque, Iowa.....	16 0	1	5 0	15 to 19	3 8	1 8
Davenport, Iowa.....	15 0	1, 2	4 7	18	2 8	1 9
Keokuk, Iowa.....	14 0	1	6 3	15 to 18	3 9	2 4
Saint Louis, Missouri.....	32 0	1	12 5	18	8 8	3 7
Cairo, Illinois.....	40 0	28	15 0	20	8 4	6 6
Memphis, Tennessee.....	34 0	1	9 5	22	5 0	4 4
Vicksburg, Mississippi.....	41 0	1	18 2	26, 27	4 9	13 3
New Orleans, Louisiana.....	-3 0	1	-10 1	25, 29, 30	-13 7	3 0
<i>Ohio River:</i>						
Pittsburg, Pennsylvania.....	22 0	16	7 5	2, 3, 4	0 8	6 7
Cincinnati, Ohio.....	50 0	20	17 1	11, 12	3 9	13 2
Louisville, Kentucky.....	25 0	22, 23	7 7	11	2 7	5 0
<i>Cumberland River:</i>						
Nashville, Tennessee.....	40 0	31	5 2	1	0 9	4 3
<i>Tennessee River:</i>						
Chattanooga, Tennessee.....	33 0	31	15 5	12	2 0	13 5
<i>Monongahela River:</i>						
Pittsburg, Pennsylvania.....	29 0	16	7 5	2, 3, 4	0 8	6 7
<i>Savannah River:</i>						
Augusta, Georgia.....	32 0	14	17 8	11	6 1	11 7
<i>Mobile River:</i>						
Mobile, Alabama.....	19	16 8	4	15 2	1 6	
<i>Sacramento River:</i>						
Red Bluff, California.....	1 to 21	0 4	22 to 31	0 3	0 1	
Sacramento, California.....	19 to 24	7 7	1 to 17, 26 to 31	7 5	0 2	
<i>Willamette River:</i>						
Portland, Oregon.....	29	3 5	20	0 3	3 2	
<i>Colorado River:</i>						
Yuma, Arizona.....						

• Below high-water mark of 1874 and 1883.

steamer of the season from the Ohio River arrived at that place on the 28th. At the end of the month navigation for the fall season was resumed.

The Tennessee River at Chattanooga rose about ten feet during the last two days of the month.

#### FLOODS.

Sanford, Florida: more than six inches of rain fell at this place on the 10th, flooding the greater part of the town and the lowlands in the vicinity. Considerable damage was done to railroads, highways, bridges, etc. Lake Monroe rose three feet during the storm.

Savannah, Georgia: the high easterly and northeasterly winds during the 11th caused a remarkably high tide, which swept over the adjacent lowlands, causing great damage to the rice crop. The water in the Savannah River reached a stage eighteen inches higher than at any time since the flood of August, 1881.

Reading, Pennsylvania, 17th: the recent heavy rains caused a break in the Schuylkill Canal, near Birdsborough, and resulted in the flooding of the adjacent farms, some of the fields being covered to a depth of three feet.

Burlington, Vermont: the heavy rain on the 21st caused a rise of five feet in the Winooski River. A temporary bridge, connecting Burlington and Winooski, was washed away, entailing a loss of \$1,000.

Sharon, Mercer county, Pennsylvania, 23d: the recent heavy rains caused the Shenango River to rise to an unusual height, causing a large amount of damage to the property of the Sharon water company.

Harrisonburg, Rockingham county, Virginia: the heaviest rainfall for many years occurred on the 29th and 30th. All streams were much swollen, and several washouts occurred along the Valley Branch of the Baltimore and Ohio railroad.

Richmond, Virginia, 30th: a high stage of water occurred in the James River on this date, submerging wharves in the lower part of the city; no serious damage resulted.

Lynchburg, Virginia: the remarkably heavy rainfall of the 28th and 29th caused destructive freshets in the streams in this part of the state. Much damage was done to railroad tracks and bridges. Reports from Fredericksburg state the flood in the Rappahannock River at that place caused damage estimated at \$10,000.

Charleston, West Virginia: the Kanawha River rose rapidly during the morning of the 31st, sweeping away a large number of loaded barges along the river in this vicinity, causing the loss of about 500,000 bushels of coal. The losses are estimated at \$150,000.

#### HIGH TIDES.

Smithville, North Carolina: the unusually high tide on the 12th submerged the entire water-front of this place; a few stores were flooded.

Wilmington, North Carolina: the highest tide for ten years occurred on the 12th.

Washington City: the tide in the Potomac was unusually high between 7 and 8 a. m. on the 12th.

Cape May, New Jersey: an unusually high sea caused considerable damage along the water-front at this place on the 25th.

High tides were also reported, as follows:

New River Inlet, North Carolina, 10th, 11th, 12th, 29th, 30th, 31st.

Cedar Keys, Florida, 11th.

Fort Macon, North Carolina, 12th, 27th, 28th, 29th.

Chincoteague, Virginia, 12th, 13th.

Ocean City, Maryland, 12th, 13th, 29th.

New York City, 13th.

#### VERIFICATIONS.

##### INDICATIONS.

The percentages of indications verified for September, 1885, (which were not published in the REVIEW for that month), and those for October, 1885, will be published hereafter.

The observer at Nashville, Tennessee, reports that the first